AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A computerized method for determining a solution to a set of constraints associated with a circuit design, comprising:

generating a graph data structure representation for the set of constraints, comprising one or more nodes, each node having an associated range;

identifying a first plurality of bit-slice constraint nodes, each selecting from a range of bits of a first variable;

converting the first plurality of bit-slice constraint nodes into a second plurality of bit-slice constraints, wherein none of the bit-slice constraints, of the second plurality of bit-slice constraints, select a range of bits that overlaps with a range of bits selected by any other of the bit-slice constraints;

generating a value for the first variable that satisfies the second plurality of bit-slice constraints; and

displaying the value to a circuit designer to facilitate implementing the circuit design.

2. (Original) The method of claim 1, wherein the step of converting comprises:

indicating, in relation to the first variable, two marking bits for each node of the first plurality of bit-slice constraint nodes.

3. (Original) The method of claim 2, wherein the step of converting comprises:

identifying a bit range, of the second plurality of bit-slice constraints, as being denoted by a first marking bit and a second marking bit, wherein a third marking bit is not in-between the first marking bit and the second marking bit.

4. (Original) The method of claim 1, wherein the step of generating comprises:

selecting a value from a range determined for each bit-slice constraint of the second plurality of bit-slice constraints.

5. (Original) The method of claim 4, wherein the step of generating comprises:

concatenating each value selected from the range determined for each bit-slice constraint of the second plurality of bit-slice constraints.

6. (Currently amended) A computerized method for evaluating bit-slice nodes in a word-level network, comprising:

generating a graph data structure representation for a set of constraints associated with a circuit design, comprising one or more nodes, each node having an associated range;

identifying a first plurality of bit-slice nodes, each selecting from a range of bits of a first operand;

converting the first plurality of bit-slice nodes into a second plurality of bit-slice selectors, wherein none of the bit-slice selectors, of the second plurality of bit-slice selectors, select a range of bits that overlaps with a range of bits selected by any other of the bit-slice selectors;

determining a first range of values, for the first operand, that satisfies the second plurality of bit-slice selectors; and

displaying the first range of values to a circuit designer to facilitate implementing the circuit design.

7. (Original) A computer program product comprising:

a computer usable medium having computer readable code embodied therein for evaluating bit-slice nodes in a word-level network, the computer program product including:

computer readable program code devices configured to cause a computer to effect generating a graph data structure representation, comprising one or more nodes, each node having an associated range;

computer readable program code devices configured to cause a computer to effect identifying a first plurality of bit-slice nodes, each selecting from a range of bits of a first operand;

computer readable program code devices configured to cause a computer to effect converting the first plurality of bit-slice nodes into a second plurality of bit-slice selectors, wherein none of the bit-slice selectors, of the second plurality of bit-slice selectors, select a range of bits that overlaps with a range of bits selected by any other of the bit-slice selectors;

computer readable program code devices configured to cause a computer to effect determining a first range of values, for the first operand, that satisfies the second plurality of bit-slice selectors.

8. (Currently amended) A computer-readable storage medium ~~An electromagnetic waveform~~ comprising a computer program, the computer program for evaluating bit-slice nodes in a word-level network, the computer

program comprising the following steps when executed by a data processing system:

generating a graph data structure representation, comprising one or more nodes, each node having an associated range;

identifying a first plurality of bit-slice nodes, each selecting from a range of bits of a first operand;

converting the first plurality of bit-slice nodes into a second plurality of bit-slice selectors, wherein none of the bit-slice selectors, of the second plurality of bit-slice selectors, select a range of bits that overlaps with a range of bits selected by any other of the bit-slice selectors;

determining a first range of values, for the first operand, that satisfies the second plurality of bit-slice selectors.